Informed Prostate Cancer Support Group Inc.
"A 501 C 3 CORPORATION ID # 54-2141691"

JANUARY 2024 NEWSLETTER

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Thursday, January 18, 2024

Volume 17 Issue 01

Next Meeting Saturday, January 20, 2024 IPCSG—10:00am—Noon PDT.

- **Dr. A. J. Mundt MD, UCSD Radiation Oncology**
- Dr. Mundt will open with an overview of the Advances in Radiation Treatments over the past year. Then he will introduce the speakers below.
  - Brent Rose MD is the Chief of the Genitourinary (GU) Disease Team, specializing in novel approaches for the treatment of prostate cancer.
  - Dr. Tyler Seibert is an Assistant Professor in the Division of Radiation Oncology and a member of the RMAS Center for Precision Radiation Medicine (CPRM).
- As always, spouses/partners and caregivers are welcome and encouraged to attend!
- After the meeting a light lunch will be served in the foyer outside the meeting room
- **For links to further Reading: https://ipcsg.blogspot.com/ (includes member suggested links)**
- **If you have Comments, Ideas or Questions,** email Newsletter@ipcsg.org
- **For more information, please send email to bill@ipcsg.org or call Bill at**

Sam Denmeade, M.D. - Bipolar Androgen Therapy (BAT)

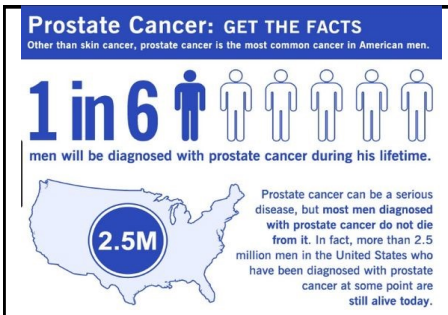
Last Meeting November 2023 IPCSG Presentation - Summary

Testosterone as a Treatment for Prostate Cancer: A Paradigm Shift

Testosterone, a male hormone, is primarily known for its role in the development of male characteristics and maintenance of reproductive tissues. However, in the context of prostate cancer, it is often associated with disease progression. Counterintuitively, testosterone can be used as a treatment for prostate cancer, targeting the androgen receptors in prostate tumors. This approach, which aims to prevent the interaction between androgens and their receptors, has been the focus of pharmaceutical innovation for the past 75 years. The segment begins with an overview of the male hormones and their functions, including testosterone, dihydrotestosterone, and estrogen. It then delves into the intricate mechanisms of hormone production, from the hypothalamus to the testicles. In prostate cancer treatment, the goal is to block the interaction between androgens and their receptors, either by removing the "ball" (testicles) or using drugs that modify the "glove" (androgen receptors), rendering them incapable of accepting the androgens.

The segment highlights the evolution of hormonal therapy for prostate cancer, from the groundbreaking work of Dr. Charles Huggins in 1941 to the present day. The therapy, initially based on surgical or chemical castration, has

(Continued on page 3)



Organization

a 501c3 non-profit organization - all positions are performed gratis

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NEWSLETTER
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PROSTATE CANCER—*2 WORDS, NOT A SENTENCE*

What We Are About

Our Group offers the complete spectrum of information on prevention and treatment. We provide a forum where you can get all your questions answered in one place by men that have lived through the experience. Prostate cancer is very personal. Our goal is to make you more aware of your options before you begin a treatment that has serious side effects that were not properly explained. Impotence, incontinence, and a high rate of recurrence are very common side effects and may be for life. Men who are newly diagnosed with PCa are often overwhelmed by the frightening magnitude of their condition. Networking with our members will help identify what options are best suited for your life style.

Join the IPCSG TEAM

If you consider the IPCSG to be valuable in your cancer journey, realize that we need people to step up and HELP. Call **President** Bill Lewis @ (619) 591-8670 "bill@ipcsg.org"; or **Director** Gene Van Vleet @ 619-890-8447.

From the Editor

In this issue:

Dr. **Sam Denmeade's talk on** current work and planned trials on Binary Androgen Therapy was summarized. Board of Directors meeting held. For further articles see the blog at https://ipcsg.blogspot.com/ . Some important items of interest this month:

1. Prostate cancer: Newly-developed inhibitor shows massive potential | ScienceDaily— *KMI169, in the lab inhibits cancer cells that were resistant to conventional treatments.*
2. Prostate Safety Events During Testosterone Replacement Therapy—fixing low T with *TRT doesn't seem to increase risk of PCa*
3. Genomic classifiers and prognosis of localized prostate cancer: a systematic review | Prostate Cancer and Prostatic Diseases: - *genetic tests seem to help very little in prediction– don't bother?*
4. Can Extreme Dose Escalation With External Beam Radiation Therapy and Low-Dose-Rate Brachytherapy Boost Obviate the Need for Long-Term Androgen Deprivation Therapy in Patients With High-Risk Localized Prostate Cancer? - *Surgery may be better.*
5. Metabolic analysis using HR-MAS in prostate tissue for prostate cancer diagnosis—*may help stratify risk level of pathology*
6. More Evidence Linking ADT for Prostate Cancer to Adverse Neurocognitive Effects—*risk of Alzheimer's disease, dementia, and Parkinson's disease increased in ADT.*
7. CMS Okays Payment for Novel AI Prostate Test—*ArteraAI test improves risk stratification over standard clinical and pathologic tools. Could help AS.*
8. No Laughing Matter: Nitrous Oxide for Transrectal Prostate Biopsy—*significantly less patient-rated pain during biopsy.*

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become more sophisticated with a variety of drugs that target different stages of hormone production and androgen receptors. Despite the effectiveness of hormone therapy, it has side effects, particularly sexual dysfunction, metabolic issues, cognitive effects, and fatigue. Additionally, patients often develop resistance to sequential therapies, leading to a need for combination treatments and continuous innovation in the field. The segment underscores that testosterone as a treatment for prostate cancer represents a significant shift in the understanding of androgen's role in this disease, offering hope for improved treatment outcomes.

Adaptive Therapy: Harnessing Cancer's Over-Adaptation

The discussion revolves around the innovative concept of Adaptive Therapy, which involves manipulating testosterone levels to inhibit cancer cell growth in prostate cancer patients. The therapy is based on the cancer cells' inability to adapt to extreme levels of testosterone, either very high or very low. By suddenly removing testosterone, many cancer cells die, but some survive and adapt to the low-testosterone environment, making more Androgen receptors (the "glove" or "goldilocks environment") to grow again. Laboratory experiments and animal studies have shown that flooding these adapted cancer cells with high levels of testosterone can lead to DNA breakage, growth signal shutdown, and cellular stress, causing the cells to die. The key is to find the right amount of testosterone to inhibit cancer cell growth. The hypothesis is that giving men high levels of testosterone could lower Androgen receptor levels, making them sensitive to low hormone therapies again. Two clinical trials, named Bipolar Androgen Therapy (BAT), have been conducted to test this hypothesis, with positive results. This approach has the potential to provide a new treatment option for prostate cancer patients, utilizing the cancer cells' adaptation mechanisms against them.

Testosterone Therapy Shows Promise in Prostate Cancer Treatment

Testosterone therapy (BAT) in prostate cancer treatment has shown to have primarily low-grade side effects, such as muscle and joint achiness, mild breast tenderness, and swelling in the legs. However, these side effects were not severe and did not cause significant problems in urinary system function. A study comparing BAT to an anti-androgen drug, enzalutamide, found that both treatments had similar effectiveness in delaying disease progression and reducing PSA levels. However, enzalutamide had more severe side effects, including fatigue, headache, and loss of appetite. Patients on BAT experienced improved quality of life, energy levels, and sexual function compared to those on enzalutamide. Another study examining body composition changes in men on BAT revealed a 10% reduction in fat and a 12% increase in muscle mass after three months of treatment. The study also suggested that testosterone therapy could reverse some metabolic issues caused by hormone therapy in men. Moreover, a small study combining testosterone therapy and immune therapy showed potential for immune cell infiltration into cancer cells, although the addition of immune therapy did not significantly improve patient response rates. In summary, testosterone therapy has demonstrated similar effectiveness to anti-androgen drugs in treating prostate cancer while significantly improving patients' quality of life. Furthermore, testosterone therapy has shown potential in reversing metabolic side effects of hormone therapy and enhancing immune cell infiltration into cancer cells when combined with immune therapy. The lower cost of testosterone therapy compared to enzalutamide also makes it a more accessible treatment option. Overall, testosterone therapy could become an essential component in prostate cancer treatment and sequencing, potentially improving responses to subsequent treatments and delaying the use of more toxic therapies like chemotherapy.

Exploring the Potential of Bipolar Androgen Therapy for Prostate Cancer

A study is underway at Johns Hopkins and seven other institutions to assess the effectiveness of Bipolar Androgen Therapy (BAT) in treating prostate cancer. The therapy involves administering testosterone and then suppressing it, with the goal of resensitizing cancer to hormone treatments and alleviating pain. The researchers are also investigating the best way to administer BAT, including an oral preparation and in combination with other drugs. Preliminary results suggest that this therapy has the potential to control the testosterone level and improve patient outcomes. The study is supported by the Department of Defense Prostate Cancer Research Program and Estellis. Additionally, the researchers are conducting a separate trial called the "Apex trial" to evaluate the combination of testosterone and dfmo, an old drug used to treat African sleeping sickness, which shows promise in improving patient outcomes. The trial also aims to study the potential effects of dfmo on the immune system.

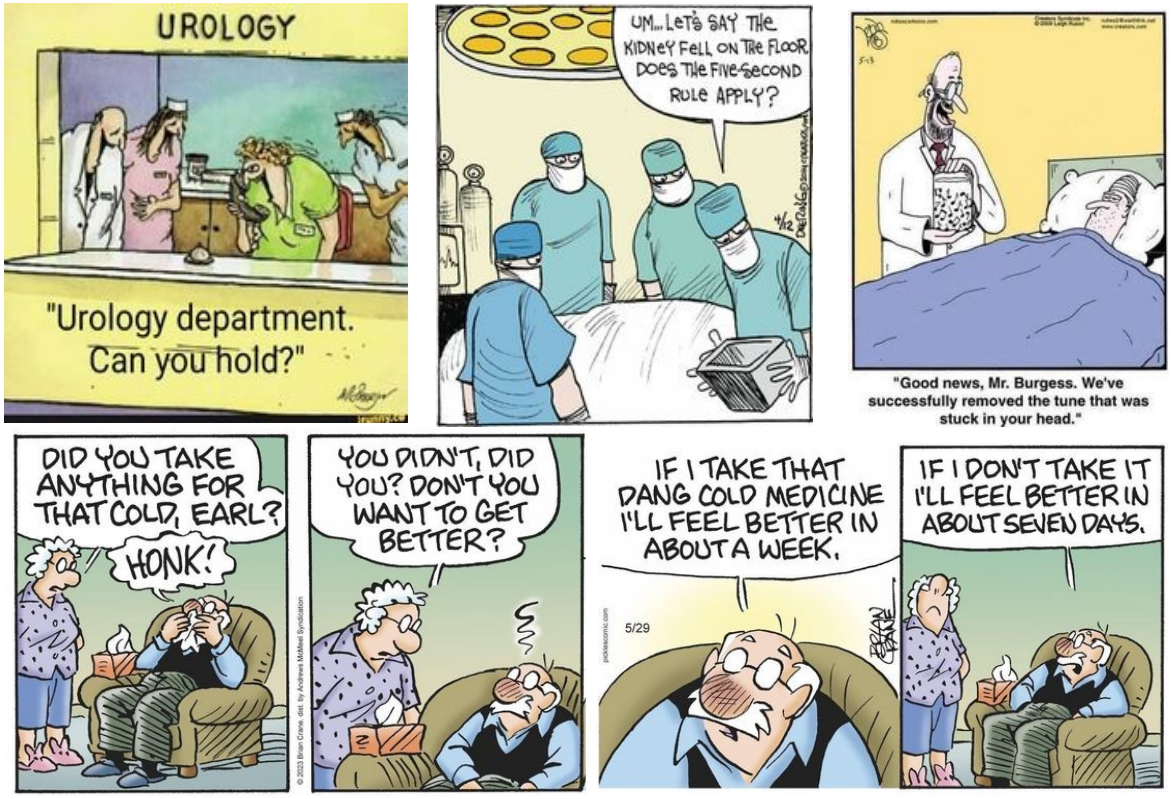
(Continued on page 4)

Potential for Bat Treatment Trial in Africa and its Role as a "Reset Button" for Prostate Cancer
The speaker shares their research on using bat, an FDA-approved drug, as a potential treatment for prostate cancer. They mention that the high-dose of bat could serve as a "reset button" for cancer cells, making them sensitive to other drugs like enzalutamide and abiraterone. The team is considering conducting the trial in Africa, where affordable treatment options are limited, and surgical castration is the primary available treatment. They are also open to sharing their data and experiences with other doctors and patients worldwide wanting to try bat as part of a treatment plan. The speaker was asked about predicting androgen deprivation resistance and shared their thoughts on how testosterone levels and PSA can be monitored to identify resistance to specific therapies. They also touched upon the phenomenon of adenocarcinoma cells transforming into more aggressive neuroendocrine cells, and the potential role of glutamine levels in detecting this change. Lastly, the speaker commented on the possibility of introducing the bat treatment to urologists for suitable patients, particularly those with advanced or metastatic prostate cancer where surgery or radiation are not curative options. They emphasized the importance of context when considering the treatment.

PSA levels, prostate cancer, and antibiotics: Understanding the implications

In this conversation, the doctor discusses the prostate-specific antigen (PSA) protein, its function, and its relation to prostate cancer. Normally, high levels of PSA are found in semen, but a small amount can be present in the blood. A PSA blood test can help detect potential prostate issues: low levels (1-2 ng/ml) could be normal, while levels above 10 ng/ml are likely to indicate prostate cancer. Intermediate levels, like 15-16 ng/ml, may require a biopsy to rule out cancer. Occasionally, men experience prostatitis, an inflammation of the prostate, causing pain during urination and discomfort in the pelvis. Antibiotics may be prescribed, and if PSA levels decrease afterward, it suggests prostatitis. However, if PSA remains the same or increases, a biopsy is recommended. Benign prostate growth can elevate PSA levels, but usually not above 8-10 ng/ml, suggesting higher levels are more likely cancer-related. The discussion also touches upon ongoing clinical trials, with the one involving Dr. McKay being the only relevant testosterone trial in California

On the Lighter Side



Items of Interest

Annual IPCSG Board of Directors Meeting

The Board of Directors met January 4, 2024 for election of officers and an annual financial status report. BoD includes Gene Van Vleet, Bill Manning, Bill Lewis, Aaron Lamb, and Stephen Pendergast. All current officers were reelected. These men donate their time and skills to make this group useful to those men and their care givers who seek help in dealing with Prostate Cancer. Please give them some thanks if you see them at meetings. If you would be willing to help, let them know.

Prostate cancer: Newly-developed inhibitor shows massive potential | ScienceDaily sciencedaily.com

More than 65,000 men fall ill with prostate cancer each year in Germany. Twelve thousand of them develop a treatment-resistant form which eventually ends in death. Now, a team of researchers from the Medical Faculty at the University of Freiburg has developed an active substance that might in future represent a new treatment option. This substance, known as KMI169, targets an enzyme that plays an important role in the development of prostate cancer. The inhibitor displayed massive potential in among others cancer cells that were resistant to conventional treatments.

Researchers from the Department of Urology at the Freiburg University Medical Center as well as the Institut für Pharmazeutische Wissenschaften at the University of Freiburg published their study in *Nature Communications* on 2 January 2024.

"We've had our eye on the enzyme KMT9 as a possible target in prostate cancer for a long time. The development of this specific inhibitor is now a decisive step in combating prostate cancer far more effectively," explains study head Professor Roland Schüle, Academic Director of the Department of Urology at the Freiburg University Medical Center and Dr. Eric Metzger, group leader in Schüle's department.The substance's potential use against treatment-resistant forms of cancer makes it especially valuable. "This treatment-resistance means that the classic antihormonal treatment often fails within a few months and the disease then progresses rapidly. The inhibitor we've developed offers us a highly innovative therapeutic approach here," says Schüle.

New approach also relevant to bladder cancer

Using cell cultures, the groups headed by Schüle and co-author Professor Manfred Jung, head of the Chemical Epigeneticsgroup of the Institut für Pharmazeutische Wissenschaften, have shown that the enzyme KMT9, known as a methyltransferase, is a critical factor in the development and progress of certain types of cancer such as prostate or bladder cancer. "The inhibitor fits snugly like a key in its lock and blocks the functioning of KMT9 and therefore also the growth of both prostate and bladder cancer cells," says Jung. The development of KMI169 was guided by crystal structure analysis of KMT9 and numerous other studies. "We modified the compound many times to increase its potency, selectivity and medicinal properties."

Prostate Safety Events During Testosterone Replacement Therapy

jamanetwork.com

Key Points

Question Does testosterone replacement therapy in men with hypogonadism increase the risk of high-grade or any prostate cancer or other adverse prostate events?

Findings During 14 304 person-years of follow-up of 5204 men (aged 45-80 years) with hypogonadism in this randomized clinical trial, incidences of high-grade or any prostate cancer, acute urinary retention, invasive surgical procedures, and new pharmacologic treatment were low and did not differ significantly between groups.

Meaning The study's findings will facilitate a more informed appraisal of the potential prostate risks of testosterone replacement therapy.

Importance The effect of testosterone replacement therapy (TRT) on the risk of prostate cancer and other adverse prostate events is unknown.

Objective To compare the effect of TRT vs placebo on the incidences of high-grade prostate cancers (Gleason score ≥4 + 3), any prostate cancer, acute urinary retention, invasive prostate procedures, and pharmaco-

logic treatment for lower urinary tract symptoms in men with hypogonadism.

Design, Setting, and Participants This placebo-controlled, double-blind randomized clinical trial enrolled 5246 men (aged 45-80 years) from 316 US trial sites who had 2 testosterone concentrations less than 300 ng/dL, hypogonadal symptoms, and cardiovascular disease (CVD) or increased CVD risk. Men with prostate-specific antigen (PSA) concentrations greater than 3.0 ng/mL and International Prostate Symptom Score (IPSS) greater than 19 were excluded. Enrollment took place between May 23, 2018, and February 1, 2022, and end-of-study visits were conducted between May 31, 2022, and January 19, 2023.

Intervention Participants were randomized, with stratification for prior CVD, to topical 1.62% testosterone gel or placebo.

Main Outcomes and Measures The primary prostate safety end point was the incidence of adjudicated high-grade prostate cancer. Secondary end points included incidence of any adjudicated prostate cancer, acute urinary retention, invasive prostate surgical procedure, prostate biopsy, and new pharmacologic treatment. Intervention effect was analyzed using a discrete-time proportional hazards model.

Results A total of 5204 men (mean [SD] age, 63.3 [7.9] years) were analyzed. At baseline, the mean (SD) PSA concentration was 0.92 (0.67) ng/mL, and the mean (SD) IPSS was 7.1 (5.6). The mean (SD) treatment duration as 21.8 (14.2) months in the TRT group and 21.6 (14.0) months in the placebo group. During 14 304 person-years of follow-up, the incidence of high-grade prostate cancer (5 of 2596 [0.19%] in the TRT group vs 3 of 2602 [0.12%] in the placebo group; hazard ratio, 1.62; 95% CI, 0.39-6.77; $P = .51$) did not differ significantly between groups; the incidences of any prostate cancer, acute urinary retention, invasive surgical procedures, prostate biopsy, and new pharmacologic treatment also did not differ significantly. Change in IPSS did not differ between groups. The PSA concentrations increased more in testosterone-treated than placebo-treated men.

Conclusions and Relevance In a population of middle-aged and older men with hypogonadism, carefully evaluated to exclude those at high risk of prostate cancer, the incidences of high-grade or any prostate cancer and other prostate events were low and did not differ significantly between testosterone- and placebo-treated men. The study's findings may facilitate a more informed appraisal of the potential risks of TRT.

Trial Registration ClinicalTrials.gov Identifier: NCT03518034

Genomic classifiers and prognosis of localized prostate cancer: a systematic review | Prostate Cancer and Prostatic Diseases:

nature.com

Goldstein, Karen M.

Prostate Cancer and Prostatic Diseases (2024)Cite this article

Abstract

Background

Refinement of the risk classification for localized prostate cancer is warranted to aid in clinical decision making. A systematic analysis was undertaken to evaluate the prognostic ability of three genomic classifiers, Decipher, GPS, and Prolaris, for biochemical recurrence, development of metastases and prostate cancer-specific mortality in patients with localized prostate cancer.

Methods

Data sources: MEDLINE, Embase, and Web of Science were queried for reports published from January 2010 to April 2022. Study selection: prospective or retrospective studies reporting prognosis for patients with localized prostate cancer. Data extraction: relevant data were extracted into a customized database by one researcher with a second overreading. Risk of bias was assessed using a validated tool for prognostic studies, Quality in Prognosis Studies (QUIPS). Disagreements were resolved by consensus or by input from a third reviewer. We assessed the certainty of evidence by GRADE incorporating adaptation for prognostic studies.

Results

Data synthesis: a total of 39 studies (37 retrospective) involving over 10,000 patients were identified. Twenty-two assessed Decipher, 5 GPS, and 14 Prolaris. Thirty-four studies included patients who underwent prostatectomy. Based on very low to low certainty of evidence, each of the three genomic classifiers modestly improved upon the prognostic ability for biochemical recurrence, development of metastases, and prostate cancer-specific mortality compared to standard clinical risk-classification schemes. Limitations: downgrading of confidence in the evidence

(Continued from page 6)

stemmed largely from bias due to the retrospective nature of the studies, heterogeneity in treatment received, and era in which patients were treated (i.e., prior to the 2000s).

Conclusions

Genomic classifiers provide a small but consistent improvement upon the prognostic ability of clinical classification schemes, which may be helpful when treatment decisions are uncertain. However, evidence from current management-era data and of the predictive ability of these tests is needed.

Can Extreme Dose Escalation With External Beam Radiation Therapy and Low-Dose-Rate Brachytherapy Boost Obviate the Need for Long-Term Androgen Deprivation Therapy in Patients With High-Risk Localized Prostate Cancer? - International Journal of Radiation Oncology, Biology, Physics

Editorial| Volume 118, ISSUE 2, P402-403, February 01, 2024

Martin T. King, MD, PhD, Peter F. Orio, MS, Anthony V. D'Amico, MD, PhD

DOI:https://doi.org/10.1016/j.ijrobp.2023.11.008

Over the past 2 decades, long-term androgen deprivation therapy (ADT) has become a standard-of-care treatment recommendation for patients undergoing external beam radiation therapy (EBRT).

Multiple randomized controlled trials involving EBRT have reported that long-term ADT reduced distant metastases and prostate cancer–specific mortality compared with short-term ADT.

The TROG RADAR study even reported a benefit of long-term ADT in the EBRT + high-dose-rate brachytherapy boost stratification.

However, long-term ADT has been associated with prolonged hot flashes, decreased libido, and reduced sexual activity compared with short-term ADT. Furthermore, ADT increases the risks of osteoporosis, metabolic derangements, and cardiovascular events, particularly in patients with with prior cardiovascular comorbidities.

Patients with localized high-risk disease who are concerned about the side effects of long-term ADT may be hesitant to choose EBRT. In 2016, over half of patients with high-risk prostate cancer opted for radical prostatectomy. [7]

Metabolic analysis using HR-MAS in prostate tissue for prostate cancer diagnosis - Panach-Navarrete - The Prostate - Wiley Online Library

onlinelibrary.wiley.com

Jorge Panach-Navarrete MD, PhD

Abstract

Introduction

In this study we used nuclear magnetic resonance spectroscopy in prostate tissue to provide new data on potential biomarkers of prostate cancer in patients eligible for prostate biopsy.

Material and Methods

Core needle prostate tissue samples were obtained. After acquiring all the spectra using a Bruker Avance III DRX 600 spectrometer, tissue samples were subjected to routine histology to confirm presence or absence of prostate cancer. Univariate and multivariate analyses with metabolic and clinical variables were performed to predict the occurrence of prostate cancer.

Results

A total of 201 patients, were included in the study. Of all cores subjected to high-resolution magic angle spinning (HR-MAS) followed by standard histological study, 56 (27.8%) tested positive for carcinoma. According to HR-MAS probe analysis, metabolic pathways such as glycolysis, the Krebs cycle, and the metabolism of different amino acids were associated with presence of prostate cancer. Metabolites detected in tissue such as citrate or glycerol-3-phosphocholine, together with prostate volume and suspicious rectal examination, formed a predictive model for prostate cancer in tissue with an area under the curve of 0.87, a specificity of 94%, a positive predictive value of 80% and a negative predictive value of 84%.

(Continued on page 8)

Conclusions

Metabolomics using HR-MAS analysis can uncover a specific metabolic fingerprint of prostate cancer in prostate tissue, using a tissue core obtained by transrectal biopsy. This specific fingerprint is based on levels of citrate, glycerol-3-phosphocholine, glycine, carnitine, and 0-phosphocholine. Several clinical variables, such as suspicious digital rectal examination and prostate volume, combined with these metabolites, form a predictive model to diagnose prostate cancer that has shown encouraging results.

More Evidence Linking ADT for Prostate Cancer to Adverse Neurocognitive Effects | MedPage Today

medpagetoday.com

Charles Bankhead

Oncology/Hematology > Prostate Cancer

— Meta-analysis shows increased risk of dementia, Parkinson's, depression

by Charles Bankhead, Senior Editor, MedPage Today January 9, 2024

Men treated with androgen deprivation therapy (ADT) for prostate cancer had a significantly higher risk of dementia and other neurocognitive disorders, according to a meta-analysis of more than 2.5 million patients.

The magnitude of excess risk ranged from 20% for dementia to 66% for depression. The risk of Alzheimer's disease, vascular dementia, and Parkinson's disease were all significantly increased among men exposed to ADT versus those who did not receive the hormonal therapy, including those with and without prostate cancer.

"The increased risk of dementia is observed regardless of the treatment modality and duration; however, quantitative analysis is needed to assess the differences between treatment modalities and durations accurately," concluded David E. Hinojosa-Gonzalez, MD, of Massachusetts General Hospital in Boston, and colleagues in *Prostate Cancer and Prostatic Diseases*opens in a new tab or window. "It is important to note that some studies may have used similar databases and overlapping patient cohorts, which could introduce potential bias or duplicate data in this analysis."

"Clinicians should be vigilant in monitoring prostate cancer patients undergoing ADT for symptoms of cognitive decline and other neurodegenerative disorders," they added.

The findings add to a large volume of data on the relationship between ADT and neurocognitive functioning. Dozens of studies and reviews have examined the relationship without producing definitive answers. For example, another recent systematic review and meta-analysis included 31 studies, 16 of which showed no association between ADT and cognitive function; 11 of which showed a negative effect on one or more outcomes; and four that yielded inconclusive results.

Another systematic review showed among studies, many of which were retrospective. Authors of yet another review published just last year concluded that "studies continue to illustrate the varied outcomes in terms of the association of ADT and other systemic treatments for [prostate cancer] with cognitive decline, despite similar methodologies and design. Patient selection, varied neuropsychological testing, and varied duration of ADT probably account for the differences seen."

CMS Okays Payment for Novel AI Prostate Test

medscape.com

Howard Wolinsky

Medicare will now cover the use of an AI-based test for prostate cancer that can predict which men will benefit from potentially disabling androgen deprivation therapy.

The Centers for Medicare & Medicare Services (CMS) on January 1 approved the payment rate for ArteraAI as a clinical diagnostic laboratory test. The test is the first that can both predict therapeutic benefit and prognosticate long-term outcomes in localized prostate cancer.

Daniel Spratt, MD, chair of radiation oncology at UH Seidman Cancer Center in Cleveland, who has been involved in researching ArteraAI, told *Medscape Medical News,* said the test improves risk stratification or prognostication over standard clinical and pathologic tools, such as prostate-specific antigen, Gleason score, and T-stage, or risk groupings such as those from the National Comprehensive Cancer Network (NCCN).

"Medicare approval allows this test to reach more patients without the financial burden of covering the test out of pocket. The test is found among other tests in NCCN guidelines as a tool to improve risk stratification and personalization of treatment," said Spratt, who serves on the network's prostate cancer panel.

ArteraAI combines a patient's standard clinical and pathologic information into an algorithm, alongside a digitized image analysis of the patients' prostate biopsy. The result is a score that estimates a patient's risk of developing metastasis or dying from prostate cancer.

No Laughing Matter: Nitrous Oxide for Transrectal Prostate Biopsy | MedPage Today

medpagetoday.com

— No effect on anxiety but significantly less patient-rated pain

by Charles Bankhead, Senior Editor, MedPage Today January 12, 2024

Patient-adjusted nitrous oxide (N_2O), commonly called laughing gas, did not reduce anxiety associated with transrectal prostate biopsy but significantly reduced pain as compared with standard anesthesia, a small randomized study showed.

Scores on a standardized anxiety questionnaire, the primary endpoint, did not differ significantly between patients randomized to N_2O or standard care. However, patents in the N_2O group reported significantly less pain, and urologists who performed the biopsies rated patient tolerance of the procedure significantly better with the addition of N_2O.

Procedure time and complication rates did not differ between the two groups, reported Heidi J. Rayala, MD, PhD, of Beth Israel Deaconess Medical Center in Boston, and colleagues in the *Journal of Urology*.

Practical Use of Self-Adjusted Nitrous Oxide During Transrectal Prostate Biopsy: A Double-Blind Randomized Controlled Trial

"To our knowledge, this is the first prospective, randomized, controlled study assessing the effects of low-dose (20-45%) N_2O on patient experience during transrectal prostate biopsy," the authors wrote. "Notably, there was not an observed decrease in the study's primary endpoints related to patient anxiety. However, there was an observed reduction in secondary endpoints of patient-perceived pain. Overall, SANO [self-adjusted nitrous oxide] was well tolerated with no significant side effects and no impact on the ease of the operating urologist's performance of the procedure."

"These results suggest that the option of adjuvant N_2O may improve patients' experience of care as they undergo diagnostic evaluation for prostate cancer," the team added.

N_2O has been used in a variety of office-based urologic procedures, including transrectal ultrasound (TRUS)-guided prostate biopsy, flexible cystoscopy, shock wave lithotripsy, and ureteral stenting, noted Raed A. Azhar, MD, of King Abdulaziz University in Jeddah, Saudi Arabia, in an accompanying editorial comment. N_2O has proven to be a cost-effective, self-administered analgesic that triggers release of opioid peptides from gray matter.

Published studies have supported the safety and efficacy of N_2O as an analgesic and anxiolytic in office-based procedures, which minimizes use of narcotics and intravenous anesthetics, Azhar continued. A previous randomized studyopens in a new tab or window showed that a 50-50 mix of N_2O and oxygen significantly reduced pain intensity and increased patient satisfaction during TRUS prostate biopsy.

"Considering the sparse guidelines that support the use of N_2O for sedation in outpatient procedures, a large, multicenter, randomized, clinical trial including more diverse patient groups is needed," he added.

The authors of a second editorial comment called the study "relevant, timely, and needed."

Medical News from Around the Web

"As the field shifts from transrectal to transperineal PBx [prostate biopsy] to reduce or eliminate antibiotic use while maintaining low rates of infectious complications and potentially yielding more accurate biopsies, it's important to acknowledge that transperineal PBx may result in a longer and more painful experience," wrote Lorenzo Storino Ramacciotti, MD, and Andre Luis Abreu, MD, both of the University of Southern California in Los Angeles. "This could exacerbate the considerable anxiety, uncertainty, fear, and embarrassment already faced by patients undergoing PBx."

"Effectively managing patients' pain and anxiety is crucial for the broader acceptance and implementation of transperineal PBx," they added "A realistic alternative towards optimizing patient experience during prostate biopsy, balancing procedural safety, efficiency, cost-effectiveness, and ultimately improving patient care is essential."

NETWORKING

Please help us in our outreach efforts. Our speakers bureau consisting of Gene Van Vleet and Bill Lewis is available to speak to organizations of which you might be a member. Contact Gene 619-890-8447 or gene@ipcsg.org or Bill 619-591-8670 (bill@ipcsg.org) to coordinate.

Member John Tassi is the webmaster of our website and welcomes any suggestions to make our website simple and easy to navigate. Check out the Personal Experiences page and send us your story. Go to: https://ipcsg.org/personal-experience

FINANCES

We want to thank those of you who have made special donations to IPCSG. Remember that your gifts are tax deductible because we are a 501(c)(3) non-profit organization.

We again are reminding our members and friends to consider giving a large financial contribution to the IPCSG. This can include estate giving as well as giving in memory of a loved one. You can also have a distribution from your IRA made to our account. We need your support. We will, in turn, make contributions from our group to Prostate Cancer researchers and other groups as appropriate for a non-profit organization. Our group ID number is 54-2141691. Corporate donors are welcome!

DIRECTIONS TO MEETINGS

Directions to Sanford-Burnham-Prebys Auditorium
10905 Road to the Cure,
San Diego, CA 92121

- Take I-5 (north or south) to the Genesee exit (west).
- Follow Genesee up the hill, staying right.
- Genesee rounds right onto North Torrey Pines Road.
- **Do not turn into the Sanford-Burnham-Prebys Medical Discovery Institute or Fishman Auditorium**
- Turn right on Science Park Road. Watch for our sign here.
- Turn Left on Torreyana Road. Watch for our sign here.
- Turn Right on Road to the Cure (formerly Altman Row). Watch for our sign here.